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UNITED STATES PATENT AND TRADEMARK OFFICE

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BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

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Ex parte LUNDY LEWIS

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Appeal 2009-000889
Application 09/577,232[1]
Technology Center 2400

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Decided:[2] June 19, 2009

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Before LEE E. BARRETT, LANCE LEONARD BARRY, and
JEAN R. HOMERE, *Administrative Patent Judges.*

BARRETT, *Administrative Patent Judge.*

DECISION ON APPEAL

_____

[1] Filed May 23, 2000, titled "Method and Apparatus for Service
Analysis in Service Level Management (SLM)," which claims the benefit of
Provisional Application 60/135,492, filed May 24, 1999.

[2] The two-month time period for filing an appeal or commencing a
civil action, as recited in 37 C.F.R. § 1.304, begins to run from the decided
date shown on this page of the decision. The time period does not run from
the Mail Date (paper delivery) or Notification Date (electronic delivery).

This is an appeal under 35 U.S.C. § 134(a) from the Examiner's final rejection of claims 31-59, which are all of the pending claims. We have jurisdiction under 35 U.S.C. § 6(b).

Oral argument was held on June 10, 2009.

We affirm.

STATEMENT OF THE CASE

A. Appellant's invention

The invention relates to service level management, wherein business processes are composed of services. A state of the service is defined by one or more service parameters, and the service parameters depend upon performance of network components that support the service, e.g., component parameters. The state of the service may depend, for example, on a collection of service parameter values for availability, reliability, security, integrity, and response time. A service level agreement is a contract between a supplier and a customer that identifies services supported by a network, service parameters for the services, and service levels (e.g., acceptable levels) for each service parameter. *See* Abstract.

B. The claims

The independent claims are claims 31, 39, 46, 53, and 59, of which claim 31 reads:

> 31. A method of providing service level management of a business process in connection with a computer network, wherein the business process is supported by a service operated on the computer network, wherein the service is supported by at

least one network component within the computer network, wherein the service is to be provided at an agreed upon service level, and wherein a measure of performance of the service indicates a current service level of the business process, the method comprising:

measuring a component parameter of the at least one network component, the component parameter indicating an operational characteristic of the at least one network component;

determining a service parameter representative of a measure of performance of the service, the service parameter having a state used to determine conformity of the service to the agreed upon service level; and

determining an effect of the measured component parameter on the state of the service parameter.

Claims App., Br. 13.

C. *The references*

Glitho	US 6,233,449 B1	May 15, 2001 (filed Aug. 24, 1998)
Yemini	US 6,249,755 B1	Jun. 19, 2001 (filed Jul. 15, 1997)
Hunter	US 6,449,603 B1	Sep. 10, 2002 (filed May 23, 1997)

D. *The rejections*

Claims 31, 32, 34-36, 38-43, 45-47, 49-51, 53-57, and 59 stand rejected under 35 U.S.C. § 102(e) for anticipation by Glitho.

Claims 33 and 48 stand rejected under 35 U.S.C. § 103(a) for obviousness over Glitho in view of Hunter.

Claims 37, 44, 52, and 58 stand rejected under 35 U.S.C. § 103(a) for obviousness over Glitho in view of Yemini.

PRINCIPLES OF LAW

Application claims are interpreted as broadly as is reasonable and consistent with the specification, *In re Thrift*, 298 F.3d 1357, 1364 (Fed. Cir. 2002), while "taking into account whatever enlightenment by way of definitions or otherwise that may be afforded by the written description contained in the applicant's specification." *In re Morris*, 127 F.3d 1048, 1054 (Fed. Cir. 1997).

"A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference." *Verdegaal Bros. v. Union Oil Co. of California*, 814 F.2d 628, 631 (Fed. Cir. 1987).

FACTS

The invention

The following terms are defined in the Specification:

> A service is a function that a network provides for the business. A service is an abstraction over and above the network, and arises in virtue of the structure and operation of the network. Thus, a service may be a function whose performance depends upon performances of network components that support the service. One example of a service is providing Internet access. The state of a service may be defined by one or more service parameter values. A service may have a predefined state expressed as a range of parameter values. The state of a service may depend, for example, on a collection of service parameter values for availability, reliability, security, integrity and response time.

> A service parameter is a variable having a state (value) which represents the performance of some service provided by

a network. Three examples of service parameters are availability, reliability, and usability (e.g., response time).

A component parameter is either: (1) a variable having a state (value) which represents the performance of some network component; or (2) a variable having a state (value) which controls the performance of some network component (e.g., transmission device, transmission media, computer system, or application).

A component-to-service parameter mapping is a function that takes as input a collection of one or more component parameter values and provides as output a value for a service parameter.

A service level is some value of a service parameter used to indicate acceptable service qualities.

Spec. 20: 11-30. The "component-to-service parameter mapping" can be declaring that some component parameter is a service parameter (a one-to-one mapping) or a function can be devised that takes as input a set of component parameters and outputs a value of the service parameter that depends upon the input component parameters (a many-to-one mapping) (Spec. 33: 12-21).

As shown in Figure 1, network components 18 are "monitored/controlled by" component parameters 19 which are "mapped into" service parameters 15 which are "marked by" service levels 16.

Glitho

In Glitho, Figure 3, a network element (NE) mobile switching center (MSC) has raw data 33 which needs to be reported to the

Network Management System (NMS) so that the network can be properly and efficiently managed (col. 4, ll. 41-45). "Raw data may come from traffic data 34 or exchange data 35, and may include, for example, exchange and cell configuration and performance data." Col. 4, ll. 45-47.

The NE takes raw data and preprocesses it to compress the data and sort it according to logical groups (col. 4, ll. 49-50).

Glitho states:

> Some of the preprocessed data enters the OMCP 31 through a Performance and Quality of Service (QoS) Monitoring (PQSM) function 36, and some of the data enters through a Trouble Sniffer (TS) 37. The OMCP uses the PQSM function to monitor performance and QoS in the network. Performance thresholds are defined (manually and/or automatically), and performance is presented to assess the current situation and current utilization level in the network. QoS may be monitored for specified cases such as handoffs and call setups.

Col. 4, ll. 55-64.

"The PQSM function 36 determines whether there is a problem with the QoS." Col. 4, ll. 65-66. The PQSM determines whether the degradation in QoS exceeds a threshold and, if so, the PQSM sends the data to the Trouble Sniffer (TS) 37 which performs calculations to detect the cause of the degradation (col. 4, l. 66 to col. 5, l. 11).

<div align="center">DISCUSSION</div>

Anticipation

Claims 31, 32, 34-36, 38-43, 45-47, 49-51, 53-57, and 59 are grouped together. Accordingly, the claims in this rejection stand or fall together with claim 31. *See* 37 C.F.R. § 41.37(c)(1)(vii).

Issues

Based on Appellant's arguments, the issues are: Does Glitho teach: (1) "determining a service parameter representative of a measure of performance of the service"; (2) "determining an effect of the measured component parameter on the state of the service parameter"; and (3) where the state may be "used to determine conformity of the service to the agreed upon service level," as recited in claim 31?

Contentions

The Examiner finds: "measuring a component parameter of the at least one network component, the component parameter indicating an operational characteristic of the at least one network component" is taught at column 4, line 55 to column 5, line 40; "determining a service parameter representative of a measure of performance of the service, the service parameter having a state used to determine conformity of the service to the agreed upon service level" is taught at column 4, line 65 to column 5, line 40; and "determining an effect of the measured component parameter on the state of the service parameter" is taught at column 5, lines 12-54 (Final Rej. 3).

Appellant argues that Glitho relates to using preprocessed network element data to monitor performance and quality of service (QoS) in a network, but does not disclose "determining a service parameter representative of a measure of performance of the service" or "determining an effect of the measured component parameter on the state of the service parameter," where the state may be "used to determine conformity of the service to the agreed upon service level" (Br. 8-9).

Appellant argues that assuming, *arguendo*, that similarities exist between a "component parameter" and the preprocessed raw data in Glitho, Glitho does not teach "determining an effect of the measured component parameter on the state of the service parameter" (Br. 9). It is argued that Glitho does not make the QoS determination based on how the network element data affects a service parameter state but, at best, uses network element data, not a service parameter's state, to determine whether QoS degradation has occurred (Br. 9). Thus, it is argued that Glitho does not teach "a service parameter representative of a measure of performance of the service" or that the service parameter has a "state used to determine conformity of the service to the agreed upon service level" (Br. 9).

Appellant notes that the Examiner apparently equates determining QoS degradation in Glitho with determining "conformity of the service to the agreed upon service level" (Br. 9). It is argued that assuming, *arguendo*, that similarities exist between QoS and "service level," the Examiner has not shown that Glitho discloses a "service parameter having a state used to determine conformity" to the agreed upon QoS (Br. 9).

Appellant argues that the Examiner equates QoS to service level and a predefined threshold to a state of the service, but nothing in Glitho teaches a "service parameter having state" (Br. 10).

The Examiner finds that "the limitation of 'determining a service parameter representative of a measure of performance of the service' can be interpreted as determining or monitoring *bandwidth or*

any service in a Quality of Service (QoS) system as taught in Glitho,
column 4, line 55 et seq." (emphasis added) (Ans. 11).

Appellant replies that "in taking this position, the Examiner
alleges that determining a 'service,' in itself, is the equivalent of
'determining a service parameter representative of a measure of
performance of the service.' In other words, the Examiner alleges that
a "service" is the same as the "service parameter" representing the
performance of the service." Reply Br. 2. Appellant argues that
"[d]etermining or monitoring a service in a QoS system is not the
same as 'determining *a service parameter* representative of a measure
of performance *of the service*'" (*id.*) and "for at least the reason that
Glitho fails to disclose using 'bandwidth or any service' as 'a service
parameter representative of a measure of performance of the service'"
(*id.*), the Examiner's position is in error.

The Examiner refers to the discussion of the degradation in the
QoS exceeding a threshold in Glitho, columns 4-5, and concludes that
it was "well known in the art that if there is a threshold that would
mean a *measurement of some sort* would have to be determined either
by measuring or calculations of a measurement" (emphasis added)
(Ans. 12).

Appellant replies that the claimed invention does not simply
recite "some sort" of measurement, but recites "measuring *a
component parameter* . . . indicating *an operational characteristic of
the at least one network component*" and the Examiner's allegation
that Glitho discloses "some sort" of measurement falls short of
teaching measuring a component parameter. Appellant notes Glitho

teaches raw data that has been preprocessed, compressed, and sorted, but argues, without saying why, "that preprocessed, compressed, and sorted data do not indicate 'an operational characteristic of . . . at least one network component'" (Reply Br. 3).

The Examiner states, with respect to the limitation "determining an effect of the measured component parameter on the state of the service parameter," that the "effect that the parameter has on the state of the service is that the quality agreed upon is not being met and the effect will cause the prior art of Glitho [to] determine what it is and how to fix the problem so that the system will be up to the agreed upon threshold" (Ans. 12).

Appellant argues:

> [T]he claimed invention expressly recites measuring certain information (i.e., a "component parameter"), determining a way to represent service performance (i.e., using a "service parameter"), and then determining a relationship between the measured information and the represented service performance (i.e., "the measured component parameter" effects "the state of the service parameter"). On the other hand, the Examiner alleges that Glitho discloses these features by *first* determining that the agreed upon QoS is not being provided and *then* determining "how to fix the problem." The mechanisms used to diagnose causes of degraded QoS are irrelevant to the claimed features of "determining an effect of the measured component parameter on the state of the service parameter," among others.

Reply Br. 3-4. It is argued that the Examiner's continued reliance on Glitho's discussion of suggested actions is irrelevant (Reply Br. 4).

Analysis

With regard to the first step of "measuring a component parameter of the at least one network component, the component parameter indicating an operational characteristic of the at least one network component" in claim 31, we find that the claimed "network component" reads on the network element NE and the claimed "component parameter indicating an operational characteristic of the at least one network component" reads on measured values of the NE which are the preprocessed raw data input to the PQSM function. These measured component parameters include "performance data" (col. 4, l. 47) and data relating to QoS. Therefore, we find that Glitho teaches "measuring a component parameter of the at least one network component, the component parameter indicating an operational characteristic of the at least one network component" as recited in claim 31. Appellant argues "that preprocessed, compressed, and sorted data do not indicate 'an operational characteristic of . . . at least one network component'" (Reply Br. 3), but does not present any arguments why performance and QoS data of a NE are not measured operational characteristics of the NE.

In the limitation "determining a service parameter representative of a measure of performance of the service, the service parameter having a state used to determine conformity of the service to the agreed upon service level," the "state" is a value of a service parameter. In Glitho, the performance data and data related to QoS output from the NE are representative of a measure of performance of the NE and have values that are used to determine conformity of the

service to a performance or QoS service level; e.g., by comparison of performance data to a performance threshold (col. 4, ll. 60-64) or QoS data to a QoS threshold (col. 4, l. 65 to col. 5, l. 3) in the PQSM. Thus, any one of the performance data and data related to QoS output from the NE corresponds to "a service parameter representative of a measure of performance of the service, the service parameter having a state used to determine conformity of the service to the agreed upon service level." Note that, at this point in the claim and the analysis, the component parameter (indicating an operational characteristic of the network component) and the service parameter (having a state (value) used to determine conformity of the service) are not tied together.

The limitation "determining an effect of the measured component parameter on the state of the service parameter" requires some interpretation. Appellant states that the limitation corresponds to the description in the Specification at page 20, lines 26-28, and page 23, lines 5-10 and 18-26 (Br. 4), which describes a component-to-service parameter mapping. "A component-to-service parameter mapping is a function that takes as input a collection of one or more component parameter values and provides as output a value for a service parameter." Spec. 20: 26-28. The Specification describes that "[o]ne method for mapping includes declaring that some component parameter is a service parameter, in which case a one-to-one mapping between the component and service parameter has been established" (Spec. 33: 14-16). The Specification also describes that there can be a many-to-one mapping (Spec. 33: 16-19), but we rely on the

one-to-one mapping example. Thus, "determining an effect of the measured component parameter on the state of the service parameter" is interpreted to mean determining the mapping between the component parameter and the service parameter, which can simply be "declaring that some component parameter is a service parameter" (Spec. 33: 14-15). This interpretation is supported by claim 39 which recites "designating one of the plurality of component parameters as a service parameter." In Glitho, this is met by declaring that the measured component parameters of the NE are the service parameters.

Although Glitho does not describe mapping a component parameter to a service parameter, in the case of a one-to-one mapping, which involves declaring that some component parameter is a service parameter, this involves merely re-labeling items of data. In our opinion, re-labeling of data does not prevent anticipation.

In this analysis, we have tried to answer Appellant's arguments about how claim 31 is read onto Glitho. Admittedly, the Examiner's rejection is lacking in claim interpretation and is not clear on several key points. Nevertheless, we review the references for what they fairly teach and find that claim 31 is anticipated by Glitho.

Conclusion

Glitho teaches: (1) "determining a service parameter representative of a measure of performance of the service"; (2) "determining an effect of the measured component parameter on the state of the service parameter"; and (3) where the state may be "used to determine conformity of the service to

the agreed upon service level," as recited in claim 31. The rejection of claims 31, 32, 34-36, 38-43, 45-47, 49-51, 53-57, and 59 is affirmed.

Obviousness

Appellant argues that the obviousness rejection of claims 33 and 48 over Glitho and Hunter should be reversed because the references fail to disclose, teach, or suggest the features of the independent claims 31 and 46 (Br. 10-11). Appellant further argues that the obviousness rejection of claims 37, 44, 52, and 58 over Glitho and Yemeni should be reversed because the references fail to disclose, teach, or suggest the features of the independent claims 31, 39, 46, and 53 (*id.* at 11). Since Appellant does not argue the separate patentability of these dependent claims, the dependent claims stand or fall with the parent claims. The rejections of claims 33, 37, 44, 48, 52, and 58 are affirmed.

CONCLUSION

The rejection of claims 31, 32, 34-36, 38-43, 45-47, 49-51, 53-57, and 59 under 35 U.S.C. § 102(e) for anticipation by Glitho is affirmed.

The rejection of claims 33 and 48 under 35 U.S.C. § 103(a) for obviousness over Glitho in view of Hunter is affirmed.

The rejection of claims 37, 44, 52, and 58 under 35 U.S.C. § 103(a) for obviousness over Glitho in view of Yemini is affirmed.

Requests for extensions of time are governed by 37 C.F.R. § 1.136(b). *See* 37 C.F.R. § 41.50(f).

AFFIRMED

msc

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